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ABSTRACT

Arranged in narrative form, this paper reviews conspicuous examples of Army use of HumRRO (Human Resources Research Organization) research and development products between 1951 and 1969. It describes some of the ways in which behavioral and social science research has helped improve Army training. Categories are: basic combat training, advanced training, support training, officer training, aviation, and social science. One hundred references are included. (Author/LY)

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HumRRO Research and the Army's Training Programs

by

Saul Lavisky

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HumRRO

HUMAN RESOURCES RESEARCH ORGANIZATION

The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It is a continuation of The George Washington University, Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation. HumRRO's mission in work performed under contract with the Department of the Army is to conduct research in the fields of training, motivation, and leadership.

The contents of this paper are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

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Prefatory Note

One important measure of the *effectiveness* of HumRRO behavioral- and social-science research and development efforts over the past 18 years is the large number of HumRRO research "products" that the Army has adopted for day-to-day use in its training program and operations. This paper was prepared to record, in narrative form, some of the more conspicuous instances of Army utilization of HumRRO research products. Its author is the Organization's Research Information Coordinator. This paper is being reproduced in the HumRRO Professional Paper series because of its relevance to the history of the Army behavioral- and social-science research programs.

An earlier version of this paper was used by the author, who is an Army Reserve lieutenant colonel, as the basis for a Command Information presentation to members of the 352d Civil Affairs Area Headquarters "A", an Army Reserve unit in Washington, D.C.

Throughout the paper, following statements that describe Army utilization of behavioral-science products, capitalized code words appear in parentheses, along with Literature Cited reference numbers. The code words identify HumRRO Work Units that produced the products utilized.

HumRRO RESEARCH AND THE ARMY'S TRAINING PROGRAMS

Saul Lavisky

I appreciate the opportunity to use this Command Information period to tell you something about the organization for which I work in civilian life—the Human Resources Research Organization—and about its contributions to Army training and education over the past 18 years. As you know, the Active Army commander typically uses Command Information time to talk to his troops about the world *outside* the Army. Since we Reservists exist in that outside world for 28 days each month, and are soldiers for only two, it seemed to me that we might profitably spend a few hours learning about a unique research-and-development organization that has had a major impact on the young men who are following our footsteps in the Active Army.

Today's soldier is not only better equipped than any of his predecessors, he is also better trained. Despite the steadily increasing complexity of weapons, equipment, and tactics, the Army has managed not only to keep pace, but actually to *improve* its training through the application of behavioral and social science to its many and varied training programs.

In 1951, at the request of the Army, The George Washington University established a Human Resources Research Office (shortened to "HumRRO") to carry out a comprehensive human factors research-and-development program—that is to say, an R&D program in the fields of training and education, training-device requirements, motivation, and leadership. For 18 years, HumRRO scientists have been discovering, developing, and applying behavioral- and social-science principles in helping the Army improve its training and operational performance.

In September 1969, HumRRO separated itself from the University and reorganized as the Human Resources Research *Organization* (still called HumRRO), an independent, nonprofit corporation. However, the staff of dedicated research scientists and the new organization's relationship to the Army and to other sponsors remain unchanged. The HumRRO mission continues to be " . . . to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation."

Perhaps the best way for me to give you a "feel" for our research program would be to describe the *impact* that HumRRO research has already had on the way the Army trains its enlisted men, its warrant officers, and its commissioned officers.

Basic Combat Training

We can begin by looking at a typical young man as he enters the Army and is sent to a training center for Basic Combat Training (BCT).

This eight-week basic-training phase is intended to accomplish the young man's transition from civilian to soldier—to give him the fundamental soldierly skills, knowledges, and attitudes. If those of you who underwent basic training during World War II, or even during the Korean War, were to visit an Army Training Center today, you would undoubtedly be struck by the *difference* between yesterday's and today's training. Many of the improved training methods, materials, and procedures are "pay-offs" from the HumRRO training R&D efforts.

In the 1950s and early 1960s, our research showed that a large number of trainees developed increasingly less favorable attitudes toward the Army during the basic training period (ADCIVA, 1; CAREER, 2; and TRANSITION, 3). The Navy and Air Force have observed a similar trend in recruit attitudes. One reason for this decrement was found to be the trainee's failure to *identify* with his unit and to develop respect for his cadre. Also, trainees seemed somewhat disappointed with BCT. They had expected it to be more demanding—physically and intellectually—and they felt they could have learned more. As a result of these findings, the training centers adopted a number of new procedures designed to *increase* the trainee's identification with his unit and with the Army.

One such procedure was the institution of the Drill Sergeant program, a major recommendation of the "Ailes Report"—a report from the then Under Secretary of the Army Stephen Ailes to Secretary Cyrus Vance which led, in 1964-65, to major revisions in the Army's recruit training system. A number of HumRRO research studies of trainee attitudes, skills, and knowledges helped Mr. Ailes formulate his recommendations and are cited in this report (ADCIVA, 1; CAREER, 2; TRANSITION, 3; and BASICTRAIN, 4-6).

The Army Drill Sergeant is especially selected for his job and, before being assigned to it, undergoes a five-week training program which has developed with major input from HumRRO scientists who had been studying NCO training for several years previously (NCO, 7-9). We sent a four-man team to Fort Jackson, South Carolina, to work for several months with Army training personnel in developing the program and in preparing key personnel to establish Drill Sergeant Schools at a number of Army installations. This training program not only helps the candidate Drill Sergeant sharpen his military skills, but also includes instruction on how to motivate men while teaching them, and how to build morale and esprit while developing trainee skills and knowledges.

During basic training, the trainee learns to fire his rifle by day and by night in programs of instruction developed by HumRRO scientists (TRAINFIRE, 10, 11; and MOONLIGHT, 12, 13). The research-based basic marksmanship program that the Army adopted in 1957 for *all* new recruits differs from the program you and I knew in that, instead of teaching

the man to fire at round bullseye targets at known distances (as in competitive marksmanship matches), the man is taught to fire his rifle in an environment that simulates the combat rifleman's job. The trainee learns to *spot* a man-shaped silhouette target which pops up on the target range; he learns to *estimate* its distance as he sights his rifle; and he learns to *fire* until he hits the target or until it drops from sight (TRAINFIRE, 10, 11).

In developing the night-firing marksmanship program, our researchers tested five methods of firing the rifle by starlight. The Army adopted the method we proposed, which is based on aligning the rifle without using its sights. They did so because our test results indicated *a 60- to 210-% increase in accuracy* over the method then standard (MOONLIGHT, 12, 13).

Our young trainee learns to use his map and compass in a program developed through HumRRO research (PATROL, 14, RIFLEMAN, 15). We not only determined the detailed characteristics of navigational skills required of the trainee, we also developed the training program that the Army adopted, including Instructor's Guide, training aids, subject schedule, and detailed lesson plans. The new program is built around training in dead reckoning and map-terrain association.

The Army is currently revising several other portions of the basic training program so that instruction will not only give the trainee the skills and knowledges he needs, but will also *increase his confidence* in his ability to use them effectively in situations which might confront him in combat (FIGHTER, 16, SKILLCON, 17).

Our young trainee will learn to perform interior and exterior guard duty in a new program of instruction that departs from the traditional parade-ground approaches by taking a *tactically oriented* approach to guard duty. As a technical advisory effort, HumRRO studied guard duty requirements and made proposals oriented toward the tactical situation, including reduction of the traditional 11 General Orders to three simplified orders. The Army adopted these recommendations and implemented them in Field Manual 22-6, *General Duty*.

Besides these specific innovations in instruction, with their improvements in training content and procedures, I would like to point out a *fundamental* change in the Army's approach to training that has resulted from our behavioral-science research efforts. I refer to the new "systems engineering" ways in which the Army now begins designing training by first determining the precise behavioral requirements for training—that is, exactly what the soldier needs to know and exactly what he must be able to do. Obviously, this is information critically important to the training-program developer because it provides him with an empirical basis for devising new training. In the past decade, industry (and to a lesser extent, public-school vocational education) has adopted many of the HumRRO-developed procedures for determining requirements.

If our young trainee demonstrates leadership potential during basic training, he may be offered an opportunity to enter a two-week special Leader Preparatory Program between his basic and advanced training.

The measures used to select men for this program were developed by HumRRO scientists in cooperation with the U.S. Army Behavioral Sciences Research Laboratory, and the two-week program itself was developed by HumRRO (NCO, 18). This program is designed to teach the leadership skills that are fundamental to job performance at the junior NCO level. It is presently operational at *all* Army Training Centers, including those for Medical Corpsmen and members of the Women's Army Corps.

When our trainee completes his eight weeks of basic training, he is tested to make certain that he can actually perform the necessary skills and knowledges. This proficiency test, which incorporates new ways of measuring the outcomes of training, is based in large part upon behavioral-science research.[1]

Advanced Training

If our young trainee, now a BCT graduate, should be assigned to Advanced Individual Training in Infantry, he will learn rifle squad techniques of fire and patrolling skills in programs which were developed by HumRRO (RIFLEMAN, 19). These new programs were based on systematic analyses of what a soldier must know and do in infantry combat.

His training for night operations will also reflect the results of our training research and development. HumRRO scientists first identified, and then developed instruction to teach, the eight fundamental Infantry night-operation skills (SWINGSHIFT, 20). This instruction has been incorporated into a *number* of Army Training Programs and Army Subject Schedules.

If, instead of to Infantry, our young trainee is assigned to AIT in Armor, he will enter a program that is based heavily on behavioral research. Some years ago, HumRRO scientists studied the objectives of advanced Armor training and developed a program of instruction to attain these objectives efficiently and effectively (SHOCKACTION, 21). Today, advanced training for tank crewmen is built around that experimental program.

While conducting this research, our scientists developed step-by-step picture guides to help teach the skills required by the tank driver, gunner, and loader. These guides proved so useful, not only as instructional material but also as on-the-job aids, that the Army reproduced them as training circulars, and they are now in use by the Active Army, Army Reserve, National Guard, Armor ROTC units, and Marine Corps. They are also being used by the Canadian Army (SHOCKACTION, 22-25).

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[1]As a by-product of Work Unit BASICTRAIN, HumRRO produced an end-of-BCT test which the Army used as a prototype. The TRANSITION staff assisted the U.S. Continental Army Command (USCONARC) in revising Army Training Test 21-2, Individual Proficiency in Basic Military Subjects.

Not only is the training of our young trainee affected by behavioral science research, but also the equipment he uses and the manner in which he uses it. For example, HumRRO research demonstrated the superiority of performance with coincidence-type rangefinders over stereoscopic-type rangefinders for night tank firing; the Army soon adopted the coincidence principle for the optical rangefinders in the M-60 tanks (FIREPOWER, 26, 27). Also, the Armor School used the results of HumRRO research in developing techniques for using a new Xenon tank searchlight, and in updating night tank tactics (ARMORNITE, 28-30).[1]

At the conclusion of his Armor AIT, our young trainee will be tested to determine his proficiency—whether he has been taught to be a tank crewman or a tank mechanic—with test instruments based on our research. Work Units SHOCKACTION and MOBILITY *both* produced end-of-training tests which are being used at the Armor Center at Fort Knox, Kentucky (SHOCKACTION, 31, MOBILITY, 32).

Let me pose a third possibility. Suppose our young trainee, after graduating from BCT, is assigned for advanced training to the Air Defense Center. His AIT program there will be based, in large measure, on one originally developed for on-the-job training (LOCK-ON, 33). HumRRO scientists—through careful systems analyses and the application of modern psychotechnology—produced a single-source, self-contained guide for training inexperienced Nike missile operators, plus a number of scales, checks, and forms for evaluating the proficiency of the missilemen. These scientist-produced materials were later published as Army Training Circulars. When the Air Defense Center found that men trained by this new method were not only as proficient as conventionally trained missilemen, but as proficient as men with considerable on-site experience, they revised their AIT program to incorporate much of the prototype program's content and many of its instructional techniques.

This new Air Defense training method depends heavily on Functional Context Training, an approach in which the context of the material to be learned is meaningful to the learner and, at the same time, is directly relevant to the goals of the training program. In addition, the new program contains a step-by-step breakdown of all operator procedures, specific instructional techniques for use by battery personnel who do not have experience as instructors, and a systematic method for evaluating trainees.

If our young trainee should be assigned to receive schooling in a technical area—for example, as an air defense electronics technician—the basic mathematical skills he will require to successfully complete basic electronics instruction have been determined by behavioral research. HumRRO conducted a study of this problem as a technical advisory service for the Army Air Defense School (34). The actual program of instruction that the trainee undergoes will be

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[1]Results from HumRRO Work Unit ARMORNITE have been incorporated in the Army Field Manual 71-1, *Armor Operations*.

shorter than the program in operation several years ago. It was found possible to shorten the program when HumRRO scientists identified the technical skills and knowledges that are *essential* to competent performance, thereby enabling the Air Defense School to eliminate instruction in those skills and knowledges which, although *nice* to know, are not really essential (RADAR, 35).

If he is trained to be a REDEYE missile gunner, his training in aircraft recognition will be based on a prototype program developed by HumRRO scientists (STAR, 36). The Combat Developments Command has recommended that this prototype program, or one based on it, be adopted for training *all* forward-area air defense gunners.

Even if his air defense role should be limited to using shoulder-fired small arms in forward areas, the training program he undergoes will be one developed by HumRRO scientists and adapted by the Infantry School (SKYFIRE, 37). Information developed in this research effort has also been used by the Combat Developments Command in revising field manuals on air defense artillery, and in a new manual, FM 44-3, *Air Defense Artillery Employment (Vulcan/Chaparral)*.

Human performance research of this type not only helps the Army determine where new and improved training programs are required, it also helps establish where additional training emphasis is *not* likely to prove useful. For example, some years ago concern over tank artillery marksmanship almost led the Army to develop a new training program for tank gunners. However, our human performance research showed that the major source of error was due to equipment inaccuracy rather than human shortcomings. The Army directed its efforts toward improving hardware rather than tank crews (UNIT, 38).

Support Training

Our young BCT graduate may not be assigned to advanced training for a combat role. He may be assigned instead to train for a "support" position.

If he trains as a Medical Corpsman, he will find that his training at the Army Medical Training Center has profited from behavioral science research and development. The Center has recently adopted some of the procedures and many of the teaching techniques—including a specialized use of instructional television—developed by HumRRO (SUPPORT, 39). The Center is also using the field medical treatment and evacuation exercises we developed, as well as an end-of-course proficiency test developed during our research.

If he should be assigned to attend a Radio Operator Course, he will find that course different from the one offered last year. USCONARC has adopted a new HumRRO-developed program of instruction for all CONUS Radio Operator Schools (SUPPORT, 40). The new course, which benefits from all our research on training objectives, course content, methods, and procedures, has managed to *reduce* recycle and academic attrition rates. The Army estimates that, by implementing

the new course, it will be able to graduate approximately 900 more students per year from the same schools using the same staffs as last year.

If our young trainee should happen to be one of the so-called "marginal men"—those whose scores on the Armed Forces Qualification Test peg them as Mental Category IV (now admissible to the Army under the new Project 100,000)—he might be sent to a Supplyman Course which has been redesigned with heavy input from behavioral science. Our researchers first determined the appropriate training objectives and standards, applied the "functional context" approach to sequencing training content, and developed an end-of-course proficiency test which they administered to graduates of an experimental class at the Quartermaster School. The results of the new program were so successful that the School has adopted it for all MOS 76A10 (Supplyman) training (STOCK, 41).

HumRRO training research has been productive for a variety of reasons. One of the most important of these has been the *systematic* approach we've taken to solving training problems. I do not use the term "systematic" here to refer solely to an *orderly* step-by-step attack on the problem. I refer to what has sometimes been called the "systems approach" or "systems engineering approach" to training—viewing training as a subsystem existing in a larger system, with all that that implies.

We feel that our education and training research program is making, and has made, significant contributions in improving the effectiveness of Army training and, at the same time, reducing its costs in time and money. These contributions take on added significance when you consider the fact that *from 70 to 80% of the life-cycle costs of a weapons system are personnel costs.*

Perhaps the most significant impact that our behavioral science research has had—and *will* have—on Army training comes about through the recent issuance of USCONARC Regulation 350-100-1, *Systems Engineering of Training*. This new regulation embodies the major concepts and techniques that HumRRO scientists have produced since 1951. It requires that, over the next five years, all 700 courses taught in USCONARC's 26 schools be "systems-engineered," in effect, *redesigned* in accordance with modern training technology as propounded by behavioral science.

USCONARC recently reviewed the effect that systems engineering has had on those courses HumRRO has *already* redesigned, and estimates that this approach will result in a *10- to 15-% reduction in training time*, while maintaining or increasing the proficiency of course graduates. The importance of this "systems engineering" regulation is attested, in part, by the fact that the Department of Defense has referred this regulation as a model to *all* the military services.

It is easy to see why we in HumRRO view this regulation as a significant milestone in our training research-and-development efforts. *With the savings in time and dollars being realized through improved training, the Army is being repaid for its investment in behavioral science research programs many times over.*

Officer Training

The specific examples I have cited thus far all have dealt with the training of enlisted men. However, the HumRRO research program also devotes considerable attention and effort to the training of officers and warrant officers.

Let us look first at the young officer who enters the Army through college ROTC. While still in college, he will have received leadership training in a 16-hour course of instruction developed by HumRRO (OFFTRAIN, 42, 43). This course, instead of taking a leadership-traits approach, is based on actual descriptions of effective and ineffective leader actions collected from officers and noncommissioned officers in combat and noncombat duties.

The new course, which was introduced to all college Army ROTC units in 1962-63, uses training films and tape recordings in an application of the case-study method. It teaches leadership methods of demonstrated effectiveness, and emphasizes the leader's interactions with his men. On film or tape, each episode terminates abruptly, just as the leader is about to make a decision in a problem situation. The ROTC students then engage in small-group and panel discussions of the leadership problems involved, and what the decision "ought" to be.

Course materials developed by HumRRO (and now being used by the Army) include films, tape recordings, student tests, and instructor's guides. More than 17,000 new officers—ROTC graduates—received this instruction last year alone. This approach to leadership training was also adapted to WAC officer-candidate training (WACLEAD).

HumRRO recently surveyed nearly 2,000 young ROTC graduates in ten branches of the Army as a first step in developing an improved General Military Science ROTC curriculum (ROCOM, 44, 45). We found these new officers assigned to at least 520 *different* principal duties during their first tour—far too many duties for anyone to apply "classical" job analysis to determine the skills and knowledges to be included in the curriculum. However, we were able to identify *common* knowledge and skill areas that could be included under seven essential training dimensions. This information was used in developing duty-oriented ROTC training objectives, ranked in order of importance. The impact of this kind of research to Army leadership can be tremendous—over 79% of all officers entering the Army over the past decade have come from ROTC.

The other major source of Army officers—Officer Candidate Schools—has also benefited from HumRRO research. Our scientists have studied the OCS program and provided the Army with useful information on how to motivate eligible men to apply for officer training, and on how to predict the combat performance of OCS graduates on the basis of their evaluations while attending OCS (OCS 46, 47).

If our young officer is assigned for branch training to the Infantry School, he will have an opportunity to use HumRRO-developed programed-instruction booklets—*Combat Formations and Battle Drill* and *Fundamentals of Defensive Combat* (LEAD, 48, 49).

In fact, the entire Infantry officer instructional program has benefited from our careful, scientific analyses of what the small-unit Infantry leader needs to know and be able to do (OFFTRAIN, 50, 51; ACTION, 52; and LEAD, 53-73), the *critical* combat skills, knowledges, and performances. Some 40 by-products from this LEAD research, manuals that summarize important information on a variety of weapons, equipment, and tactics, are now being used for instruction at the Infantry School, and will soon be disseminated to other Army Service Schools. These manuals are based, in part, on information collected by HumRRO scientists in extensive, on-the-scene interviews with officers and men in Vietnam.

Not yet implemented in its entirety is a research-based training program to improve the combat skills of Armor tank platoon officers (UNIT, 74). However, if our "typical" young officer should be assigned to Armor officer training, he will find that the HumRRO listing of Armor platoon leader activities, together with a ranking of the relative importance of each activity, *is* being used by the Armor School and Center. Also, the School is using the program's test of the Armor platoon leader's knowledge and capability for making combat decisions to evaluate the effectiveness of its training.

This same research effort produced a series of tactical training exercises and two prototype war gaming devices—a Miniature Armor Battlefield and an Armor Combat Decisions Game (UNIT, 74). The Combat Decisions Game has been adopted as an Army training aid, and a number of Armor installations and units have constructed and are using them. The Miniature Armor Battlefield—a more expensive device—has been judged *extremely* useful by Armor School officials, and a requirement for seven of these devices in CONUS and seven in Europe has been established. However, funding to meet these requirements has not yet been made available. It should be stressed here that it is not the device per se, but the training program in which the device is used, that is of key importance in producing proficient Armor leaders and crewmen.

If our young officer is assigned to Air Defense rather than to Infantry or Armor, he will receive schooling which has benefited from behavioral science research. HumRRO scientists first determined the skills and knowledges required of the Nike-Ajax missile battery officer (SAMOFF, 75). This information was needed to serve as a basis for developing training programs for these officers.

When the Nike-Hercules became operational, HumRRO scientists revised the original job descriptions and in so doing developed a method of keeping officer job descriptions continuously updated—a method that can be used for a large number of officer positions in all branches of the Army (SAMOFF, 76-78).

If, after a minimum of technical training, our young officer should be placed in command of a Nike-Hercules missile battery, he can improve his technical knowledge—his ability to supervise the performance of electronics technicians, and to evaluate the readiness of his unit—with a set of HumRRO-produced programed, self-instructional materials

(SAMOFF, 79, 80). These manuals have been adopted by the Army Air Defense Command and distributed throughout the Command as special texts.

I would like to point out here that the military subject matter, the *content* of these HumRRO-produced instructional materials, is not devised solely by us. Major amounts of military input to these materials come from military personnel, and the accuracy and importance of the content is validated by other military personnel. HumRRO scientists contribute by determining the behavioral requirements for training, in establishing training objectives, in developing new and improved training methods and training-management techniques, and in evaluating the outcomes of training. An outstanding feature of our behavioral research in training has been the close working relationship that has evolved over the past 18 years among HumRRO personnel, the Army Research Office, USCONARC, and officials at Army schools, centers, and other Army headquarters.

Aviation

Army aviation is another area to which we have devoted a considerable amount of attention and effort. For example, several years ago our research showed there was considerable inconsistency among checkpilot evaluations of student helicopter pilots. If our hypothetical young man were to become an aviator candidate today, he would find that the Army Primary Helicopter School is using a training "quality control" program developed by HumRRO (LIFT, 81-83). This program, in large measure, clears up the earlier lack of standardization in student evaluation.

A key element in the program is a Pilot Performance Description Record which all checkpilots now use in their evaluation procedure. The program, which the Primary Helicopter School adopted in the early 1960s, makes possible (a) comprehensive and consistent testing of students' flight proficiency; (b) accurate and equitable evaluation of the efficiency of training personnel; (c) a high degree of uniformity in flightcheck procedures and scoring practices; and (d) objective and detailed School standards by which individual students or entire classes may be evaluated.

As you know, aviation training is costly. Aircraft operating costs have increased as a function of the increasing complexity of Army aircraft. Consequently, an area of heavy emphasis in HumRRO research has been the use of flight training devices and simulators as a means of increasing both the efficiency and the effectiveness of flight training programs.

As a result of one of our training device research efforts—currently in the implementation stage—the young man who undergoes Army helicopter training will soon get his first taste of rotary-wing flight in a helicopter training device. This action is a result of a HumRRO study of the effectiveness of a helicopter training device concept that uses a "captive" one-man helicopter mounted on a ground-effects machine. Men trained on this device during our research study experienced significantly less attrition during the subsequent flight

training than did conventionally trained students—10% attrition as compared with 30%. They also made better flight grades and soloed the helicopter sooner (ECHO, 84).

As the flight student moves on to Fort Rucker, Alabama, for his advanced training, he will receive instruction utilizing other training devices developed by HumRRO as prototypes. One such device, whose commercial procurement cost would have been about $75,000 was fabricated by the Army to specifications developed by HumRRO through Technical Advisory Service related to Work Unit SYNTRAIN, at a cost of less than $5,000.

At the school or in operational units, pilots and aerial observers may receive instruction in the basic skills of aerial observation through the use of self-instructional programed texts that we developed for the Army. These observer programed texts, incidentally, were the first *programed* Technical Manuals in the Army's inventory. This research has significantly reduced the amount of costly flight time required for the training of aerial observers (OBSERVE, 85, 86). It is of interest to note, also, that this training program has been used by the U.S. Marine Corps and by some of our Allied governments.

Social Science

If we were to follow our hypothetical young officer into a variety of other potential Army assignments, I could continue to point to instances where HumRRO behavioral-science research has had an impact—has made a *real* difference.

If he should be assigned to military advisory duties in a foreign country, his preparation would include instruction which benefited from our research. One research effort produced guidelines for training personnel for Military Assistant Advisory Group (MAAG) duties (MAP, 87, 88); another has produced guidelines for training civic action advisors (CIVIC, 89-91).

If he should be assigned to Vietnam, he could teach himself the rudiments of the Vietnamese language in a short, automated, self-instructional program developed by HumRRO (MALT, 92).

If he were, instead, a more senior officer being assigned to the Command and General Staff College, his program of instruction would include a textbook on leadership at the higher levels which was prepared by HumRRO scientists; this textbook integrates and systematizes social science knowledge to provide a better understanding of the organizational role of the high-level military commander. In fact, it has proven so useful that it has recently been published as an official Department of the Army pamphlet for Army-wide dissemination (HIGHLEAD, 93).

If I have sounded boastful, I want to apologize for giving that impression. But I am proud that the organization for which I work has been so useful to the Army—that the Army has gotten so much in return for its investment in HumRRO research.

Incidentally, the Army, too, is pleased with the benefits it has received from its behavioral- and social-science research. Each year since 1961, USCONARC has published a pamphlet describing instances of Army utilization of HumRRO products and by-products. The examples cited and many more, are all contained in this official USCONARC pamphlet series (94-100).

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13. ABSTRACT

This paper reviews, in a narrative form, conspicuous examples of Army utilization of HumRRO research-and-development products between 1951 and 1969. It describes some of the ways in which behavioral- and social-science research has helped to improve Army training.

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